

Appl. No. 09/823,813

Request for Reconsideration. Dated November 18, 2003

Reply to Final Office action of September 18, 2003

Please amend the claims as follows. This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Claims 1-16 (previously cancelled)

Claim 17 (previously amended): A wafer preparation module, comprising:

an enclosure containing wafer engaging rollers, the wafer engaging rollers being oriented at an angle, the angle configured to be between 0° to 90°, the wafer engaging rollers designed to spin a wafer at the angle during preparation.

Claim 18 (original): A wafer preparation module as recited in claim 17, wherein the preparation includes one of rinsing, cleaning, drying, scrubbing, and megasonic fluid application.

Claim 19 (original): A wafer preparation module as recited in claim 17, further comprising:

at least one cleaner dispenser configured to apply a fluid to a surface of the wafer during at least part of the preparation.

Claim 20 (original): A wafer preparation module as recited in claim 17, further comprising:

a nozzle configured to apply a gas flow toward at least one of wafer engaging rollers.

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Claim 21 (original): A wafer preparation module as recited in claim 17, further comprising:

a megasonic spray assembly for applying a megasonic spray to a surface of the wafer.

Claim 22 (original): A wafer preparation module as recited in claim 17, wherein at least one of the wafer engaging rollers is a drive roller.

Claim 23 (original): A spin, rinse, and dry module comprising:

an enclosure having an outer wall, the outerwall being configured to include a window therein, the window being defined within the outerwall so as to create a process angle with a horizontal plane;

a pair of drive rollers defined within the enclosure, the drive rollers being configured to spin a substrate to be processed while engaging the substrate to be processed; and

an engaging roller defined within the enclosure, the engaging roller configured to engage the substrate to be processed, the engaging roller and the pair of drive rollers configured to engage the substrate to be processed such that the substrate to be processed creates an angle with the horizontal plane that is substantially equivalent to the process angle.

Claim 24 (previously amended): A spin, rinse, and dry module as recited in claim 23, further comprising:

a cleaner dispenser defined within the enclosure, the cleaner dispenser being configured to clean a top surface and a bottom surface of the substrate to be processed.

Claim 25 (original): A spin, rinse, and dry module as recited in claim 23, further comprising:

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a megasonic assembly defined within the enclosure, the megasonic assembly being configured to be applied to a top surface and a bottom surface of the substrate to be processed.

Claim 26 (previously amended): A spin, rinse, and dry module as recited in claim 23, further comprising:

a plurality of gas blow nozzles defined within an inner wall of the enclosure, at least one gas blow nozzle being configured to dispense a first gas onto each of the drive rollers and the engaging roller.

Claim 27 (original): A spin, rinse, and dry module as recited in claim 23, further comprising:

a plurality of holes defined within an inner wall of the enclosure so as to introduce a second gas into the enclosure, the second gas being configured to substantially evenly dry a top surface and a bottom surface of the substrate to be processed.

Claim 28 (previously added): A wafer preparation module, comprising:

an enclosure containing wafer engaging rollers, the wafer engaging rollers being oriented at an angle, the wafer engaging rollers designed to spin a wafer at an angle during preparation; and

a nozzle configured to apply a gas flow toward at least one of wafer engaging rollers.

Claim 29 (previously added): A spin, rinse, and dry module comprising:

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an enclosure having an outer wall, the outerwall being configured to include a window therein, the window being defined within the outerwall so as to create a process angle with a horizontal plane;

a pair of drive rollers defined within the enclosure, the drive rollers being configured to spin a substrate to be processed while engaging the substrate to be processed;

an engaging roller defined within the enclosure, the engaging roller configured to engage the substrate to be processed, the engaging roller and the pair of drive rollers configured to engage the substrate to be processed such that the substrate to be processed creates an angle with the horizontal plane that is substantially equivalent to the process angle; and

a plurality of gas blow nozzles defined within an inner wall of the enclosure, at least one gas blow nozzle being configured to dispense a first gas onto each of the drive rollers and the engaging roller.

Claim 30 (previously added): A spin, rinse, and dry module comprising:

an enclosure having an outer wall, the outerwall being configured to include a window therein, the window being defined within the outerwall so as to create a process angle with a horizontal plane;

a pair of drive rollers defined within the enclosure, the drive rollers being configured to spin a substrate to be processed while engaging the substrate to be processed;

an engaging roller defined within the enclosure, the engaging roller configured to engage the substrate to be processed, the engaging roller and the pair of drive rollers configured to engage the substrate to be processed such that the substrate to be processed creates an angle with the horizontal plane that is substantially equivalent to the process angle; and

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a plurality of holes defined within an inner wall of the enclosure so as to introduce a second gas into the enclosure, the second gas being configured to substantially evenly dry a top surface and a bottom surface of the substrate to be processed.

Claim 31 (previously amended): A wafer preparation module, comprising:

an enclosure containing wafer engaging rollers, the wafer engaging rollers being suspended at an angle, the wafer engaging rollers designed to spin a wafer at an angle during preparation, the enclosure further having an inner wall containing a plurality of holes defined therein, the plurality of holes being configured to introduce a gas into the enclosure, the gas being configured to substantially evenly dry a top surface and a bottom surface of the wafer to be processed.